

- Research Interest** My research interests center around robotics and distributed algorithm with a focus on multi-agent system and its application
- Education**
- California Institute of Technology** 2007 - Present  
Ph.D Student in Computer Science Advisor: K. Mani Chandy & Richard Murray
- University of Washington** 2003 - 2007  
B.E in Computer Engineering Magna Cum Laude
- Honors/Awards**
- National Science Foundation Graduate Fellowship 2008  
California Institute of Technology Graduate Fellowship 2007  
Google Anita Borg Scholarship Finalist 2006  
Microsoft College Puzzle Challenge - First place in the University of Washington 2006  
NSF Excellence in Computer Science, Engineering, and Mathematics Awards 2005, 2004  
Merck Summer Undergraduate Research Fellowship 2005  
Mary Gates Research Fellowship 2004
- Publications**
- Virtual Environments for Developing Strategies for Interdicting Terrorists Carrying Dirty Bombs*,  
Matt Wu, Annie Liu, K. Mani Chandy, *ISCRAM 2008*
- TEASE (Tree EASE) A method to integrate term enrichment analysis with hierarchical clustering*,  
Annie Liu, Roger Bumgarner, Vu Chu, *Bioinformatics 2006*
- Sorting Nexin 1 downregulation promotes colon tumorigenesis*, L. Nguyen, M. Holdren, M. Furuya,  
M. Bianchini, E. Levy, A. Liu, J. Mordoh, G. Guncay, J. Campbell, W. Parks, *Clinical Cancer  
Research 2006*
- Talks and Presentations**
- SoCal Workshop 2008  
Sigma Xi Scientific Conference 2005  
Merck Summer Undergraduate Research Symposium Rosetta Inpharmatics, 2005  
Howard Hughes Medical Institute Research Symposium UW, 2005, 2004  
University of Washington Annual Undergraduate Symposium 2005, 2004
- Skills**
- Programming Languages:* C, C++, C#, Java, Ruby, Matlab, Mathematica, HTML, ML  
*Systems and Tools:* Windows, OS X, Linux, L<sup>A</sup>T<sub>E</sub>X, Microsoft Visual Studio
- Projects**
- Autonomous Agents for Interdicting Toxic Sources** 01/2008 - present  
*California Institute of Technology, CS, ME, CDS* Advisor: K. Mani Chandy  
Designing system architecture for ER1 wheeled robots to perform cooperative sensing and multi-robot collaboration to track down possible toxic sources such as chemical spill or radiation. The system is interfaced through Player/Stage
- Simulation of Radiation Detection in Half-Life 2 Game Engine** 10/2007 - present  
*California Institute of Technology, CS* Advisor: K. Mani Chandy  
Simulating the radiation detection problems in a 3D multi-player virtual environment. Testing detector models and developing strategies for law enforcement agencies to defend against possible threat of a dirty bomb attack
- Virtual Environment for Robotic Rehabilitation Researchs** 09/2006 - 07/2007  
*University of Washington, CSE* Advisor: Yoky Matsuoka  
Created a virtual environment with stereo vision that can interface with haptic robotic devices

to assist rehabilitation. Applied distortion and examining how it can affect peoples perception of movement

**Software Development for TIGR MeV** 09/2005 - 06/2006  
*University of Washington, Bumgarner Lab* Advisor: Roger Bumgarner  
Developed algorithm modules in NIH sponsored, open source genomic research software suite, TIGR MeV (MultiExperiment Viewer).

**Algorithmic Microarray Data Analysis** 06/2005 - 09/2005  
*University of Washington, Bumgarner Lab* Advisor: Roger Bumgarner  
Designed and implemented a robust dendrogram parsing and searching algorithm that boosted up the processing speed by  $\tilde{10}$  times.and provided an intuitive GUI in MeV 3.1.

**Studies of Possible Cancer-Inducing Protein Transporters** 10/2003 - 06/2005  
*University of Washington, Parks Lab* Advisor: W. Tony Parks  
Designed and conducted experiments that contributed to the study of a novel family of intracellular protein transporters that are connected to early cancer development.

**Work Experience** **Architecture Compliance Design for IBM IMS Database** Summer 2006  
*IBM Silicon Valley Laboratory, CA* Engineer Intern  
Investigated architecture designs for IBM IMS (Information Management System) to support Service Component Architecture (SCA). Designed and prototyped such process through web service binding via SOAP gateway

**Activities** **Peer Mentor for New CSE Students** 2006  
Mentored newly admitted CSE students in the University of Washington.

**Mentor in Minority Programs** 2006, 2005  
Presented in several programs that took place in Seattle/Bay Area with the aim to help encourage and support underrepresented women to pursue a career in science and engineering.

**Volunteer at Engineering Open House** 2006  
Introduced computer science to K-12 students by doing hands-on demo and group activities

**ACM Programming Participant** 2005  
Participated in the school ACM programming contest

**Howard Hughes Medical Institute Leadership Program in Ecuador** 2005  
Co-lead a group of 8 undergraduate students to conduct field research in East Andes Mountains in Ecuador. Organized outreach program to interact with the local people.

**Seattle Animal Shelter Volunteer** 2004  
Walked and trained stray dogs every Saturday.